

Serial No. 09/901,878

Attorney Docket No. LX00071

REMARKS

Claims 1 through 53 are pending in this application. Claims 1, 6, 23, 28, 33, 40, and 48 are hereby amended.

Claims 1 through 5 and 28 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Regarding claim 1, the language "for high writing throughput" is hereby removed, and the language "the predetermined screen size" is hereby changed to --the predetermined size of the screen--. Regarding claim 28, the language "said button icons" is hereby changed to --said action icons--. Reconsideration and withdrawal of the 35 U.S.C. §112, second paragraph; rejection of claims 1 through 5 and 28 are respectfully requested.

Claims 1, 3, 6, 33 through 35, and 48 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,367,453 to Capps, et al. ("Capps, et al. patent"). Claims 1, 4, 36 through 39, and 49 through 53 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Capps, et al. patent and U.S. Patent No. 5,682,439 to Beernink, et al. ("Beernink, et al. patent"). Claims 7 through 10, 12, 13, 15 through 20, and 22 through 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Capps, et al. patent and U.S. Patent No. 5,889,888 to Marianetti, II, et al. ("Marianetti, II, et al. patent"). Claims 5, 40 through 43, and 45 through 47 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Capps, et al. patent and U.S. Patent No. 5,754,686 to Harada, et al. ("Harada, et al. patent"). Claims 11, 21, and 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Capps, et al. patent, the Marianetti, II, et al. patent, and the Harada, et al. patent.

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Claim 1 as amended provides that the plurality of recognition results and the handwritten input are displayed simultaneously, and claims 6, 23, 33, 40, and 48 as amended provide similar language. None of the cited references, include the Capps, et al. patent, the Beernink, et al. patent, the Marianetti, II, et al. patent, and the Harada, et al. patent, individually or in combination, describe or suggest an apparatus, method or computer program product for simultaneously displaying a handwritten input and a plurality of corresponding recognition results, as required by amended claims 1, 6, 23, 33, 40, and 48. Therefore, claims 1, 6, 23, 33, 40, and 48 distinguish patentably from the Capps, et al. patent, the Beernink, et al. patent, the Marianetti, II, et al. patent, the Harada, et al. patent, and any combination of these patents.

Claims 2 through 5, 7 through 22, 24 through 32, 34 through 39, 41 through 47, and 49 through 53 depend from and include all of the limitations of independent claims 1, 6, 23, 33, 40, and 48 as amended. Therefore, claims 2 through 5, 7 through 22, 24 through 32, 34 through 39, 41 through 47, and 49 through 53 distinguish patentably from the Capps, et al. patent, the Beernink, et al. patent, the Marianetti, II, et al. patent, the Harada, et al. patent, and any combination of these patents for the reason stated above for amended claims 1, 6, 23, 33, 40, and 48.

In view of the above, reconsideration and withdrawal of the rejection of claims 1 through 53 are respectfully requested.

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CONCLUSION


No amendment made was related to the statutory requirements of patentability unless expressly stated herein. Also, no amendment made was for the purpose of narrowing the scope of any claim, unless Applicant(s) has/have argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The first page of the attached page(s) is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

It is submitted that the claims clearly define the invention, are supported by the specification and drawings, and are in a condition for allowance. A Notice of Allowance is respectfully solicited. Should the Examiner have any questions or concerns that may expedite prosecution of the present application, the Examiner is encouraged to telephone the undersigned.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 1, 6, 23, 28, 33, 40, and 48 are amended as follows:

1. (Amended) A hand-held electronic apparatus having a small housing for ease of transport thereof and to contain control circuitry for running different applications therewith, the apparatus comprising:

a screen on the housing having a predetermined size for displaying information to a user;

handwriting recognition circuitry configured for recognizing single and multiple character words handwritten on the predetermined screen area [for high writing throughput];

a predetermined area of the screen less than the predetermined [screen] size of the screen on which handwriting is recognized, the predetermined area configured to display handwritten input; and

an input device which cooperates with the screen and underlying circuitry for use in inputting handwriting only in the predetermined screen area and selecting application operations displayed on the remainder of the screen to provide the input device with distinct functions based on where the device is used on the screen,

wherein the handwriting recognition circuitry is configured to display a plurality of recognition results on the screen simultaneously with the handwritten input.

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6. (Amended) A handwriting recognition user interface (HUI) for a portable device having a touch-enabled input screen, said HUI comprising:

a handwriting input area residing in a portion of a touch-enabled input screen, handwritten words being entered, one at a time using a stylus, a plurality of recognition results being displayed in said handwritten input area simultaneously with at least one handwritten word;

a recognition engine capable of recognizing handwritten words; and

a main dictionary, said recognition engine comparing each handwritten input word against words in said main dictionary and providing a probability score indicative of the likelihood that each dictionary word is a correct interpretation of the handwritten input word.

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23. (Amended) A personal digital assistant (PDA) capable of recognizing handwritten words, said PDA comprising:

a touch-enabled input screen;

a recognition engine capable of recognizing handwritten words;

a main dictionary containing a plurality of words;

a communications port for communicating with a remotely connected computer, data being transferred between said remotely connected computer and said PDA;

a local storage storing said main dictionary, application data and applications to be run on said PDA;

a plurality of switches providing manual input to said PDA; and

a handwriting recognition user interface (HUI) comprising:

a designated handwriting input area residing in a lower portion of said touch-enabled input screen, handwritten words being entered a single word at a time using a stylus, a plurality of recognition results being displayed on said touch enabled screen in said designated handwriting input area simultaneously with at least one handwritten word, stylus entries made in said designated handwriting area being handwritten entries and stylus entries made outside of said designated handwriting input area being pointer function entries,

a pop-up list listing word candidates, said recognition engine matching each handwritten input word against words in said main dictionary and providing a probability score indicative of the likelihood that each given word is a correct interpretation of the handwritten input word, all words scoring less than a highest scoring word being secondary words, and

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one or more action icons displayed together on a side of said touch-enabled screen and providing access to editing functions for editing previously recognized displayed words.

28. (Amended) A PDA as in claim 27, wherein selecting one of said [button] action icons selects an editing operation selected from the group consisting of: inserting a space, backspacing, deleting, capitalizing recognition result, and undoing automatic insertion of a last recognition result.

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33. (Amended) A method of providing textual information to a computer, said method comprising the steps of:

- a) receiving an entry from a designated handwritten-entry screen area;
- b) passing said received entry to a handwriting recognition engine;
- c) receiving a probability score from said recognition engine, said probability score indicating a likelihood for a corresponding dictionary word that said corresponding dictionary word matches said received entry; and
- d) displaying, simultaneously with the entry, a list of [one] two or more words in descending order according to said probability score for each displayed word.

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40. (Amended) A method of handwriting recognition for an electronic device having circuitry for running different applications, incorporating graphical interface and stylus to allow a user to interact with the application through said graphical interface, the method comprising:

providing a predetermined data entry area on the graphical user interface to receive handwritten data input, one word or character at a time;

allocating a memory buffer for the handwritten data input;

allocating a system input buffer for copying recognition data to be forwarded to an application that is active via the underlying operating system of the device;

recognizing handwritten data as words or characters;

comparing the recognition data after input in the memory buffer with data in one or more electronically stored dictionaries;

calculating recognition probability indices between associated dictionary data entries and the recognition data;

displaying, simultaneously with the handwritten data input, a plurality of candidates determined from the dictionaries as having a probability of matching the handwritten data input based on the recognition probability calculations;

prompting user intervention when said recognition probability calculations indicate the recognition data does not match a present dictionary entry;

accepting user input correcting inaccurate recognition;

modifying user-defined dictionaries in response to input of new words or characters; and

copying the correct recognition candidate to the system input buffer and forwarding the same to the active application software via the operating system.

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48. (Amended) A computer program product for interfacing handwritten text with a computer, said computer program product comprising a computer usable medium having computer readable program code thereon, said computer readable program code comprising:

computer readable program code means for receiving a handwritten entry;

computer readable program code means for converting said handwritten entry into a character string;

computer readable program code means for storing a plurality of correctly spelled words;

computer readable program code means for generating a probability score for each of said plurality of words, said probability score indicating a likelihood for a corresponding one word of said plurality of words that said corresponding one word matches said handwritten entry; and

computer readable program code means for selecting a list of [one] two or more words for display in descending order according to probability score simultaneously with the handwritten entry.